

REMARKS

Claims 1-2, 4-10 and 14-18 are pending in this application. Claim 5 has been canceled. Reconsideration of the rejections in view of these amendments and the following remarks is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment, which is captioned "Version with Markings to Show Changes Made."

Rejections under 35 USC §112

Claims 1, 2, 4-10 and 14-18 are rejected under 35 USC §112, first paragraph, because these claims allegedly fail to satisfy the written description requirement.

Claim 5 was rejected to under 35 USC §112, second paragraph, as being indefinite because it recites limitation regarding softening point identical to that in claim 1, from which it depends.

Accordingly, claims 1, 14, 16 and 17 have been amended to recite "(c) 5 through 10 wt% or more of polymeric monomer including a polar group." The amendment is supported by the specification in Table 1.

Claim 5 has been canceled making the rejection of the claim moot.

Thus, the rejections have been overcome.

Rejections under 35 USC §103(a)

Claims 1, 2, 4-10, and 14-18 were rejected under 35 U.S.C. §103(a) as being obvious over Nguyen et al (U.S. Patent No. 6,248,805) in view of Patel et al (U.S. Patent No. 5,977,210) and Fujisawa et al (U.S. Patent No. 5,997,136).

Applicant respectfully traverses this rejection.

Claims 1, 14, 16 and 17 have been amended to recite “(a) 20 through 99 wt% of styrene; (b) 10 through 80 wt% of alkyl acrylate or alkyl methacrylate; and (c) 5 through 10 wt% or more of polymeric monomer including a polar group, the polymeric monomer including a polar group consisting of acrylic acid, methacrylic acid, 2-hydroxypropyl-N, N, N-trimethylammonium chloride acrylate, vinylpyridine and N, N-diallylmethylammonium chloride.” The above recitations are supported in the specification from page 11, line 19 to page 12, line 2, page 13 Table 1, page 15, lines 6-15. These recitations are important to achieve “rapid drying” and “fixation” as explained in the previous Office Action.

Nguyen et al., Patel et al. and Fujisawa et al. do not teach or suggest the above recitations.

Therefore, claims 1, 14, 16 and 17 patentably distinguish over Nguyen et al., Patel et al. and Fujisawa et al. Claims 2, 4 and 6-10, depending from claim 1, claim 15 depending from claim 14, claim 18 depending from claim 17, patentably distinguish over the references for at least the same reasons.

Thus, the 35 USC §103(a) rejection should be withdrawn.

U.S. Patent Application Serial No. 09/492,373

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Version with Markings to Show Changes Made

HAHOMEVfsaka amendment 991444-4

IN THE CLAIMS:

Claim 5 has been canceled.

Claims 1, 14, 16 and 17 have been amended as follows:

1. (Four Times Amended) Ink comprising:

a primary particle of a copolymer that has a glass transition point less than or equal to 45 °C, a softening point measured by a flow tester ranging from 40 through 150°C and a volume average particle diameter ranging from 0.01 through 2 μ m obtained from a radical polymeric monomer composition consisting essentially of:

(a) 20 through 99 wt% of styrene;

(b) 10 through 80 wt% of alkyl acrylate or alkyl methacrylate; and

(c) 5 through 10 wt% ~~or more~~ of polymeric monomer including a polar group, the polymeric monomer including a polar group consisting of acrylic acid, methacrylic acid, 2-hydroxypropyl-N, N, N-trimethylammonium chloride acrylate, vinylpyridine and N, N-diallylmethylammonium chloride;

a colorant; and

a solvent that is liquid at room temperature.

1 14. (Four Times Amended) Ink comprising:

2 a copolymer particle that has a glass transition point less than or equal to 45 °C, a softening point
3 measured by a flow tester ranging from 40 through 150°C and a volume average particle diameter ranging
4 from 0.01 through 2 μ m obtained from a radical polymeric monomer composition consisting essentially of:

5 (a) 20 through 99 wt% of styrene;

6 (b) 10 through 80 wt% of alkyl acrylate or alkyl methacrylate; and

7 (c) 5 through 10 wt% or more of polymeric monomer including a polar group, the
8 polymeric monomer including a polar group consisting of acrylic acid, methacrylic acid, 2-hydroxypropyl-
9 N, N, N-trimethylammonium chloride acrylate, vinylpyridine and N, N-diallylmethylammonium chloride;

10 a colorant; and

11 a solvent that is liquid at room temperature.

1 16. (Four Times Amended) An ink cartridge including a case and ink which is stored n said case
2 and comprises:

3 a copolymer particle that has a glass transition point less than or equal to 45 °C, a softening point
4 measured by a flow tester ranging from 40 through 150°C and a volume average particle diameter ranging
5 from 0.01 through 2 μ m obtained from a radical polymeric monomer composition consisting essentially of:

6 (a) 20 through 99 wt% of styrene; and

7 (b) 10 through 80 wt% of alkyl acrylate or alkyl methacrylate; and

8 (c) 5 through 10 wt% or more of polymeric monomer including a polar group, the
9 polymeric monomer including a polar group consisting of acrylic acid, methacrylic acid, 2-hydroxypropyl-
10 N, N, N-trimethylammonium chloride acrylate, vinylpyridine and N, N-diallylmethylammonium chloride;
11 a colorant; and
12 a solvent that is liquid at room temperature.

1 17. (Four Times Amended) A recording device including a head and an ink cartridge supplying
2 ink to said head, wherein said ink comprises:

3 a copolymer particle that has a glass transition point less than or equal to 45 °C, a softening point
4 measured by a flow tester ranging from 40 through 150°C and a volume average particle diameter ranging
5 from 0.01 through 2 μm obtained from a radical polymeric monomer composition consisting essentially of:

6 (a) 20 through 99 wt% of styrene; and

7 (b) 10 through 80 wt% of alkyl acrylate or alkyl methacrylate; and

8 (c) 5 through 10 wt% or more of polymeric monomer including a polar group, the
9 polymeric monomer including a polar group consisting of acrylic acid, methacrylic acid, 2-hydroxypropyl-
10 N, N, N-trimethylammonium chloride acrylate, vinylpyridine and N, N-diallylmethylammonium chloride;

11 a colorant; and

12 a solvent that is liquid at room temperature.